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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,969	07/30/2001	Roger Stringham	FSGT-01003US3	3144
28554	7590	02/15/2007	EXAMINER	
VIERRA MAGEN MARCUS & DENIRO LLP 575 MARKET STREET SUITE 2500 SAN FRANCISCO, CA 94105			AWAI, ALEXANDRA F	
		ART UNIT	PAPER NUMBER	
		3663		
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/15/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/918,969	STRINGHAM, ROGER
	<b>Examiner</b>	<b>Art Unit</b>
	Alexandra Awai	3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 1/12/2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 18,23,24 and 30 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17,19-22 and 25-29 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                  |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                             | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/2007</u> | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments filed 11/20/2006 have been fully considered but they are not persuasive. In the most recent response, as well as the arguments filed 8/22/2005, Applicant has omitted any acknowledgement of the grounds for the objection to the specification and enablement rejections except for the issue that conventional attempts at cold fusion have failed and that, given this failure, skilled artisans would not understand how to make and use the invention as disclosed and claimed. As the current Remarks represent at least the second time Applicant has disregarded the several other relevant issues brought to light by examiners considering the case on its own merits, the omission of arguments and evidence to rebut Examiner's reasoned conclusions cannot be considered inadvertent.

2. With regard to the objection to the specification, Applicant *again* grossly mischaracterizes the substance of Examiner's Office Action. In the most recent Remarks, Applicant states the following:

“In general, the Examiner in the February 17, 2005 Office action, and in the October 17, 2005 action (by incorporation) argue two points at length.

First, it is point out that conventional attempts at cold fusion have failed. Roughly 40 pages of the February 17, 2005 Office action are devoted to showing that conventional attempts at cold fusion have failed and have been discredited.

Second, given the history of failure in cold fusion, the Examiner then argues that skilled artisans would not understand how to make and use the invention disclosed and claimed in the application” (p. 7).

Applicant traverses Examiner's objection on the grounds that the prior attempts at cold fusion are categorically different from Applicant's process, as the former were based on electrochemical processes and the latter are based on collapsing cavitation bubbles. However, although this

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difference obviously exists between cold fusion concepts and bubble fusion, it is not grounds for holding that it is improper to apply the heightened standard associated with failed electrochemical processes to the instant invention.

There is considerable controversy concerning the amounts of heat and pressure produced during sonoluminescence that the instant invention relies upon, and Examiner has discussed several technical issues that are specific to the instant disclosure that also tend to show that the invention is inoperable. Applicant has failed entirely to provide any arguments or evidence regarding these issues. Despite the fact that Examiner provided the following statement on pages 2 and 3 of the previous Office Action:

“Persuasive arguments as to the adequacy of the disclosure and the patentability of the invention must unequivocally explicate both the controversial physics in question, and how and in what manner the invention achieves its stated, and arguably incredible, object,”

Applicant has resorted once again to providing unconvincing conclusory statements regarding the operability of the invention and the substance of the previous Office Action while *completely ignoring* the reasonable technical challenges discussed at length in several parts of the Office Action.

3. Regarding the objection to the specification due to the fact that it does not contain an adequate written description, Applicant suggests that case law addressing this point is contrary to Examiner's position. This conclusion is entirely without merit. As stated by Applicant, the test is whether one of ordinary skill in the art would clearly recognize upon reading the disclosure that, at the time of filing, the inventor possessed, or invented, what is claimed. In other words, to satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the

claimed invention. See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116. In the present case, the sections of the previously submitted Office Actions that establish that the invention is not enabled also serve to establish that the claimed anomalous heat producing apparatus recited in the claims has not been described in the disclosure such that one of ordinary skill in the art would clearly recognize upon reading the disclosure that, at the time of filing, the inventor possessed, or invented it. Those aforementioned sections provide several reasons that a skilled artisan would not conclude that the disclosed apparatus can produce anomalous heat, and Applicant has not addressed those reasons. The objection to the specification is maintained because the claims recite an anomalous heat producing apparatus, and the disclosure does not adequately describe the mechanism by which anomalous heat is produced.

4. Applicant's arguments regarding the objection to the specification due to the fact that it is not enabled once again mischaracterize Examiner's argument by stating that it focuses on the failure of the prior art to achieve cold fusion excess heat. As an exemplary paragraph, Applicant reproduces a passage from the Office Action dated 2/17/2005, which the present Examiner has already shown to have been misinterpreted by Applicant in the more recent Office Action dated 10/17/2005. ***Applicant's understanding that Examiner's position regarding enablement to turn on its being the same as the prior art is erroneous, and has already been explicitly contradicted.*** For example, Applicant was provided with the following statement in the previous Office Action:

"The aforementioned general point is *not* the only important challenge to patentability that the previous examiner brought to light. Indeed, the previous examiner mentioned ***several technical and scientific issues that cast questions of relevant prior art into relief.*** It is in view of these important questions that the objections and rejections on the

grounds of enablement and adequate written description were made" (p. 2, emphasis added).

Examiner fully acknowledges that §112 does not require independent verification or substantiation of a disclosure of an invention. However, enablement is determined based on whether one of ordinary skill in the art can make and use the invention recited in the claims, and independent verification or substantiation of a disclosure of an invention is merely one non-limiting example of how an applicant may meet the statute. Applicant's assertion that the disclosure clearly meets this standard is not justifiable. In the present case, Applicant has failed to establish that any apparatus utilizing sonoluminescence may work at all (i.e., requiring an infinite amount of experimentation that never brings the invention to fruition), and additionally, that the instant invention in particular may be practiced without undue experimentation, the standard of "unduly extensive experimentation" necessarily being subjective.

The judgment as to whether the experimentation required to manufacture and practice the invention is based on several factors including the breadth of the claims, the nature of the invention, the level of predictability, the amount of direction provided by the inventor, the existence of working examples and the quantity of experimentation needed relative to the content of the disclosure. Examiner has particularly addressed at least the issues of the nature of the invention, the level of predictability, the amount of direction provided by the inventor and the existence of working examples, and the evidence and issues discussed all tend to show that Applicant has, at best, set forth what may be considered a concept or an object of scientific research. It has been held that such does not present a utility within the meaning of 35 U.S.C. 101. See *Brenner v. Manson*, 148 UPSQ 689.

It is well established that where as here, the utility of the claimed invention is based upon allegations that border on the incredible or allegations that would not be readily accepted by a substantial portion of the scientific community, sufficient substantiating evidence of operability must be submitted by applicant – for example, in the form of an operative embodiment or persuasive explanations for the technical issues raised by Examiner. Note *In re Houghton*, 167 U.S.P.Q. 687 (CCPA 1970); *In re Ferens*, 163 U.S.P.Q. 609 (CCPA 1969); *Puharich v. Brenner*, 162 U.S.P.Q. 136 (CA DC 1969); *In re Pottier*, 152 U.S.P.Q. 407 (CCPA 1967); *In re Ruskin*, 148 U.S.P.Q. 221 (CCPA 1966); *In re Citron*, 139 U.S.P.Q. 516 (CCPA 1963); and *In re Novak*, 134 U.S.P.Q. 335 (CCPA 1962).

5. Applicant's discussion of several essential elements of the claimed anomalous heat producing apparatus conspicuously omits any reference to the feature of the invention that has actually been questioned on a technical basis. Examiner does not allege that the skilled artisan is not capable of making and using a reaction vessel. Examiner does not allege that the skilled artisan is not capable of procuring the claimed reactant materials. Examiner does not allege that the skilled artisan is not capable of procuring the claimed catalytic material. Examiner does not allege that the skilled artisan is not capable of creating transient cavitation bubbles. Examiner does not allege that the skilled artisan is not capable of making and using a heat exchanger. Examiner does not rely upon the fact that past references and publications have failed to enable one of ordinary skill in the art to produce excess heat.

With regard to Applicant's assertion that Examiner indicates that one of average skill in the art would not know how to make a cavitation bubble that collapses as disclosed, it is noted that the aspect of cavitation bubble collapse questioned by Examiner is whether or not the

“extremely high temperatures” that occur upon the collapse are sufficient to enable the  $D + D \rightarrow ^4He + \gamma$  reaction, much less *prevent* the  $D + D \rightarrow ^3He + n$  and  $D + D \rightarrow T + p$  reactions and allow “a combination of reactions with adjacent atomic deuterium in the metal lattice to yield  $He_4$  *without the accompanying long range radiation*” (specification, p. 4, emphasis added), which would defy the laws of conservation of momentum and energy. Accordingly, it is the *production of anomalous heat* (i.e., through the postulated fusion of two deuterium nuclei into  $^4He$ ) using the admittedly conventional devices recited in the claims that Examiner alleges has not been enabled. It should be clear, therefore, the Examiner expects that any skilled artisan might be able to assemble the disclosed elements into an apparatus, but *not* an anomalous heat producing apparatus. In order to produce anomalous heat according to the disclosed mechanism, if such is even possible, there must be some additional element or elements that have not been disclosed or claimed.

On page 15 of the 2/17/2005 Office Action, it is stated that the “absence of radiation is itself considered as evidence that no nuclear reactions were actually taking place.” Atomic reactions may result in reaction products and thermal radiation, but nuclear reactions result in *particle radiation and electromagnetic radiation only*. The heat obtained from neutronic fusion reactions *must* come from the kinetic energy of the resultant particles because harnessing electromagnetic radiation for heat or electricity is extremely problematic and most of the energy is not carried away by charged particles. In fact, gamma rays are far more penetrating and less ionizing than charged particle radiation, and it seems clear that any gammas produced within the invention would simply pass right through it, rather than having their energy absorbed by the

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working fluid (i.e. the light water). Therefore, the *absence of radiation* is **inseparable** from the *absence of heat*, much less heat above and beyond the energy used to operate the invention.

The previous examiner discusses at length the challenges of producing the non-radiative products as disclosed by the applicant, due to the choice of heavy water as the fusion fuel source (2/17/2005 Office Action, pp. 11+). With about 50% probability, deuterium-deuterium (DD) fusion results in an energetic  $^3\text{He}$  particle and a more energetic neutron. The other half of the time, the result is an energetic tritium particle and a more energetic proton. It is only through a vanishingly small proportion that  $^4\text{He}$  and the accompanying gamma ray may result. The applicant does not show how this third and least likely reaction is the only one that occurs within the invention. For example, it is not clear that a high frequency transducer is capable of producing temperatures of up to 1,000,000° K, and the value of “something between 20,000° and 1,000,000° Kelvin” (Specification, p. 4) is decidedly inexact and below the temperature required for the  $\text{D} + \text{D} \rightarrow ^4\text{He} + \gamma$  reaction to take place to any measurable degree.

In view of the scientific challenges discussed above, the technical aspects of the written description are clearly inadequate. The applicant is required to explain how the components that comprise the apparatus overcome these scientific problems, and how the applicant has put to rest the controversy surrounding the amounts of heat and pressure produced during sonoluminescence. Because, according to the applicant, the posited invention has overcome these technical challenges, its construction is singularly puzzling, and a disclosure of a particular structure with a complete set of accompanying operating parameters is required for skilled artisans to make and use it. For example, note that the specification recites that the “watts in” equals all of the measured *heat* inputs (Specification, p. 25), and so the applicant has not

explicitly shown that this value includes *all* energy inputs, including the power used to operate various auxiliary components of the apparatus. In fact, the heat input (Graph 1, p. 24) term appears both incomplete and unclear, as the unit of watts is more accurately applied in power measurements, and it is not clear how a measurement of heat in versus heat out is relevant, when sonic energy and electricity are employed by the invention rather than thermal energy. Ambiguities such as these render the specification inadequate.

As stated by the applicant, no device has ever successfully produced excess heat from fusion facilitated by sonic energy. The subject matter is clearly not well-understood by those skilled of the art of nuclear fusion or electronics, and so precise ranges or values for each component's dimensions, chemical composition, energy consumption, arrangement, mass flow rate, efficiency, etc. are required for enablement. Statements such as the "generation of He4 accounts for some of the excess heat measured" (Specification, p. 27) must be qualified and explained in terms of the established physics. *The inventor has not provided a sufficient disclosure, enabling a person skilled in the art to make and practice the invention without undue experimentation and has not overcome the arguments and evidence provided in this and previous correspondence.*

6. With regard to the rejection of the claims under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement, the reasons set forth with respect to the objection to the specification have been shown to be unpersuasive in sections 1-5 of this Office Action.

7. With regard to the rejection of the claims under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement, the rejection is withdrawn as it would be

impossible, in this case, to demonstrate that the inventor knew of a best mode of practicing the invention.

8. With regard to the rejection of the claims under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, the reasons set forth with respect to the objection to the specification have been shown to be unpersuasive in section 3 of this Office Action. Applicant has completely ignored the specific rejection regarding new matter.

9. Applicants comments with regard to the rejection under 35 U.S.C. § 112, second paragraph, do not appear to be directed to the objectionable issues set forth in section 10 of the previous Office Action. The question is certainly not whether Applicant is “prohibited” from using “wherein” clauses, but rather whether or not those clauses render the claims indefinite. Applicant’s conclusory statements as to what one of ordinary skill in the art would understand from the claims are not taken as persuasive evidence supporting Applicant’s position. Applicant must directly respond to the actual rejections set forth by Examiner.

10. With regard to the rejection of the claims under 35 U.S.C. § 101, because the claimed invention is not supported by a credible asserted utility, the reasons set forth with respect to the objection to the specification have been shown to be unpersuasive in sections 1-5 of this Office Action. The reliable production of heat is not a credible feature of the disclosed invention.

11. In response to Applicant's argument that Flynn fails to show certain features of Applicant's invention, it is noted that the features upon which applicant relies (i.e., bubble collapse via a z-pinch) are not recited in the rejected claims. Also see section 13 of the previous Office Action. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). On page 19 of the Remarks Applicant asserts that the system of the present invention uniquely involves a mechanism of bubble collapse via the z pinch of the jet plasma, which implants D+ plasma at high densities. However, it is not clear where Applicant discloses this mechanism in the original disclosure, or how it is possible given the nature of the z-pinch, particularly in the absence of an external magnetic field.

Similarly, with respect to Fujimura, there is no element recited in the claims that is not also taught by Fujimura. The fact that the inventions intended functions are different is irrelevant given the broad nature of the claims.

The rejection of the claims under 35 U.S.C. § 103(a) is traversed on the ground that each of the references operates by electrolytic processes. However, because the claims are not limited in scope by the intended method of use, they are encompassed by devices that are not intended to function in the same way. Applicant has not pointed out what actively claimed element, if any, is absent from the cited prior art. Indeed, Applicant's current arguments are essentially identical to the arguments presented on pages 16-18 of the Remarks dated 8/22/2005. At no time does Applicant even attempt to argue against the case made by Examiner. In this respect, just as with regard to enablement and written description, Applicant has completely disregarded the arguments and evidence presented by Examiner in the Office Action dated 10/17/2005.

*Specification*

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an adequate written description of the invention and as failing to adequately teach how to make and/or use the invention as set forth in sections 3 and 4 of this Office Action.

***Claim Rejections - 35 USC § 112***

14. Claims 1-17, 19-22 and 25-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement as set forth in the 2/17/2005 Office Action and sections 1-5 of this Office Action.

15. Claims 1-17, 19-22 and 25-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The added material which is not supported by the original disclosure is that “at least part” of the catalytic material is selected from a group of certain metals, and that the matrix configuration optimizes combination that is not controlled. The original disclosure only supports subject matter in which a substantial part of the catalytic material is composed of a member or members of the stated group of metals. That is, a catalytic material containing only a fraction of a percent of the catalytic metal is not enabled or described, but it is encompassed by the currently amended claim. Additionally, combination that is *not* controlled is not supported within the specification – note that optimization necessitates a degree of control.

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 1-17, 19-22 and 25-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims remain vague, indefinite and incomplete, largely as set forth in the 2/17/2005 Office Action. Terms such as "isotopic", "at least", "to position...in a manner...to optimize", "combination", "in a liquid form", and "high energy bubbles" are not adequately defined within the claims and so allow for a myriad of spurious interpretations that are not disclosed by the specification. For example, all hydrogen atoms are technically isotopic, and the combination of atoms most accurately refers to the formation of ionic or covalent bonds.

***Claim Rejections - 35 USC § 101***

18. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

19. Claims 1-17, 19-22 and 25-29 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by a credible asserted utility as set forth above and in the 2/17/2005 Office Action.

***Claim Rejections - 35 USC § 102***

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 25, 26 and 29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Flynn as set forth in the 2/17/2005 Office Action. With regard to the applicant's arguments, note that it is not the device *per se* of the Flynn *disclosure* that is distinct from the present apparatus, but rather the *theory or interpretation* of sonoluminescence-facilitated fusion. As they are broadly and ambiguously claimed in the present application, the embodiments can literally be construed as combinations of well-known devices (i.e. heat exchangers, sonic horns, reactor vessels, connecting ducts, etc.), distinguished from the prior art of record *only* by virtue of the fact that they have allegedly succeeded in producing anomalous heat. However, the applicant has not convincingly communicated that anomalous heat *was* actually produced (note that requested experimental data is not readily available, section 17 below), or under what conditions said heat was produced. Therefore, this *single* non-obvious/inherent distinguishing feature is not established, and neither is patentability.

22. Claims 1-8, 10, 11, 15-17, 19, 21, 22, and 25-29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fujimura, as set forth in the 2/17/2005 Office Action. With regard to the applicant's arguments, note that the reference teaches and suggests the inclusion of the features of the present device. Furthermore, it is the bubbles that undergo cavitations, said bubbles not being actively claimed, but rather being an aspect of the *intended operation* of the apparatus (i.e. the combination of sound wave production means, bubble producing means, hydrogen isotope, etc. – all of which are disclosed by Fujimura), which is not lent patentable weight.

***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 1-17, 19-22 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Sugano, Kasahara *et al*, or Pavelle *et al* alone, or in view of either Liebert *et al* or Drexler as set forth in the 2/17/2005 Office Action. *Note again that the applicant's arguments are drawn to cavitation phenomena. It is sonoluminescence that operates by cavitation, although the specifics of that operation remain in question. The theory of sonoluminescence-facilitated fusion is not actively claimed, but is only suggested in terms of intended use. The system itself is claimed, and said system is anticipated by the prior art.*

***Conclusion***

25. This is a continuation of applicant's earlier application of the same number. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Awai whose telephone number is (571) 272-3079. The examiner can normally be reached on 9:30-6:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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February 8, 2007

JACK KEITH  
SUPERVISORY PATENT EXAMINER